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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 734,737	12 13 2000	Toshifumi Kimba	2000-1706A	4508

7500 02 26 2003  
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EXAMINER

PHAM, HOA Q

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 02 26 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/734,737

Applicant(s)

KIMBA ET AL

Examiner

Hoa Q. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 11 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,4
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group I (claims 1-18) in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1, 2, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Moriyama et al (5,609,511).

The teachings of Moriyama et al read on claims 1, 2, and 10. For example, Moriyama et al discloses a conduit (nozzle 31) the tip end of which is directed and spaced away from the film (4), the conduit discharging a jet of a light-transmitting liquid from the tip end toward the film to form a column of a light transmitting liquid, a light emitter and receiver (S2) for emitting light to the film and receiving light reflected from the film (see figures 7, 11, and 12).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-9 and 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama et al in view of Bibby, Jr et al (6,106,662) and Arai et al (5,099,614).

Regarding claims 3-6 and 11-14, Moriyama et al does not explicitly teach the use of optical fibers for transmitting light to the sample and receiving reflected light to the detector. However, such the features are known in the art as taught by Bibby et al. Bibby et al, from the same field of endeavor, discloses a method and apparatus for endpoint detection for chemical mechanical polishing in which the optical fibers (113) are used for transmitting/receiving light (figures 3, column 4, lines 37-67). Those of

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ordinary skill in the art at the time the invention was made to include in Moriyama et al the optical fibers as taught by Bibby et al for the purpose of transmitting/receiving light. The rationale for this modification would have arisen from the fact that using such optical fibers would prevent light loss before reaching the detector, thus increase the signal to noise ratio.

Regarding claims 7-8, 15, and 17-18, Arai et al, from the same field of endeavor, teaches the use of first conduit and second conduit for directing fluid to the surface of the test wafer (4) (figure 6). Those of ordinary skill in the art at the time the invention was made to replace the nozzle of Moriyama by a first and second conduit taught by Arai et al because they function in the same manner. A substitution for each other is generally recognized as being within the level of ordinary skill in the art.

Regarding claims 9 and 16, using a pump for drawing liquid is well known in the art. Thus, it would have been obvious to one having ordinary skill in the art to connect a pump to the device of Arai et al for the purpose of drawing liquid from the conduit.

8. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Birang (5,708,506) in view of Arai et al and Bibby, Jr. et al.

Birang discloses a roughness detection device or endpoint detection device which has all the features of the present invention except that a jet of transmitting liquid is projected instead of a jet of gas. Arai et al, from the same field of endeavor, teach the use of liquid as a propagation medium (column 1 lines 19-31). Those of ordinary skill in

the art at the time the invention was made to replace the gas source of Birang by liquid as taught by Arai et al because they are function in the same manner.

Regarding claims 3-6 and 11-14, Birang does not explicitly teach the use of optical fibers for transmitting light to the sample and receiving reflected light to the detector. However, such the features are known in the art as taught by Bibby et al. Bibby et al, from the same field of endeavor, discloses a method an apparatus for endpoint detection for chemical mechanical polishing in which the optical fibers (113) are used for transmitting/receiving light (figures 3, column 4, lines 37-67). Those of ordinary skill in the art at the time the invention was made to include in Birang the optical fibers as taught by Bibby et al for the purpose of transmitting/receiving light. The rationale for this modification would have arisen from the fact that using such optical fibers would prevent light that loss before reaching the detector, thus increase the signal to noise ratio.

Regarding claims 7-8, 15, and 17-18, Arai et al teaches the use of first conduit and second conduit for directing fluid to the surface of the test wafer (4) (figure 6). Those of ordinary skill in the art at the time the invention was made to replace the nozzle of Birang by a first and second conduit taught by Arai et al because they are function in the same manner. A substitution for each other is generally recognized as being within the level of ordinary skill in the art.

Regarding claims 9 and 16, using a pump for drawing liquid is well known in the art. Thus, it would have been obvious to one having ordinary skill in the art to connect a pump to the device of Arai et al for the purpose of drawing liquid from the conduit.

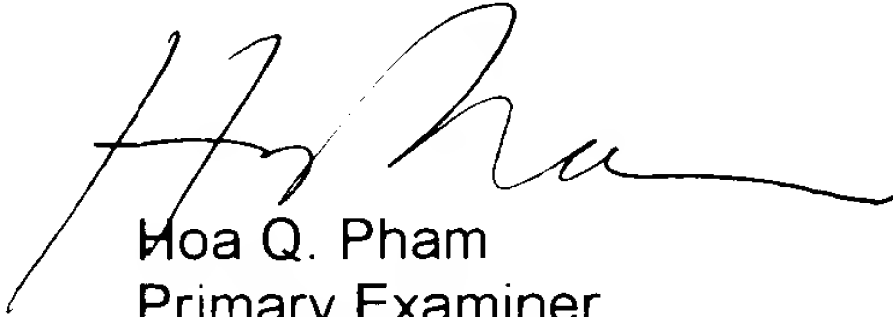
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9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jairath et al (6,146,248) and Nyui et al (6,120,349) disclose a polishing system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (703) 308-4808. The examiner can normally be reached on 6:30 AM to 5 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Hoa Q. Pham  
Primary Examiner  
Art Unit 2877

HP  
February 21, 2003